UST Compliance Assistance Checklist

PART I. OWNER/OPERATOR INFORMATION

1. Facility Name: Morning Star Market
2. Owner: Eggen's Direct Services
3. Operator:
5. Contact Person:
6. UST Site Phone #:

6. Date of Visit: 8.17.15 7. Marketer: X Non-Marketer:
8. Site Arrival/Departure (Time): /
9. Facility Address: 104 Main St. Wahkon, MN. 56386
10: Team Members:

PART II. UST SITE INFORMATION

1. Tank #:	1	2	3	4	5	6	7
2. Tank Type:	STIP3						
3. Piping Type:	Steel						
4. Size of Tank:	6k	4k	4k				
5. Tank Contents:	R	PR	R				
6. Install Date:							
7. TTT Date:	ATG-	Auto stick	Jr.				
8. LTT Date:	Incon	TS-lS3000	6/9/15				
9: LD (Tank):	6/9/15						
10: LD (Pipe):							
11. Closure Date:							
	Perm__Temp__	Perm__Temp__	Perm__Temp__	Perm__Temp__	Perm__Temp__	Perm__Temp__	Perm__Temp__
12. Spill:	Yes x No __	Yes__No __	Yes__No __	Yes__No __	Yes__No __	Yes__No __	Yes__No __
13. Overfill:	Yes x No __	Yes__No __	Yes__No __	Yes__No __	Yes__No __	Yes__No __	Yes__No __
Type:							
14. CP (Tank):	Yes__No __	Yes__No __	Yes__No __	Yes__No __	Yes__No __	Yes__No __	Yes__No __
Date:							
Type:	Alarm	Alarm	Alarm				
15. CP (Piping):	Yes__No __	Yes__No __	Yes__No __	Yes__No __	Yes__No __	Yes__No __	Yes__No __
Date:	9/14/12						
Type:	Pass						

16. CP Monitoring: [For all cathodic protection systems (Galvanic Anodes and Impressed Current Systems)]

6 Mo./3 Yrs: Yes__ No__ Yes__ No__ Yes__ No__ Yes__ No__ Yes__ No__ Yes__ No__ Yes__ No__

Note: Monitoring conducted within six month of installation and three years after initial monitoring. [280.31(b)(1)]

Six Months: Yes__ No__ Yes__ No__ Yes__ No__ Yes__ No__ Yes__ No__ Yes__ No__ Yes__ No__

Note: Monitoring conducted within six month of any repairs to UST system. [280.33(e)]

Records: Yes__ No__ Yes__ No__ Yes__ No__ Yes__ No__ Yes__ No__ Yes__ No__ Yes__ No__

Note: Records on file of last two monitoring results. [280.31(d)(2)]

17. CP Monitoring: [For Impressed Current Systems Only]

60 Day Insp.: Yes__ No__ Yes__ No__ Yes__ No__ Yes__ No__ Yes__ No__ Yes__ No__ Yes__ No__

Note: System is inspected ever 60 days, involvers reading and recording systems voltage and amperage. [280.31(c)]

Records: Yes__ No__ Yes__ No__ Yes__ No__ Yes__ No__ Yes__ No__ Yes__ No__ Yes__ No__

Note: Records on file of last three voltage and amperage readings. [280.33(d)(1)]

(10/29/2015)

UST Compliance Assistance Checklist

PART III. RECOMMENDATION(S) & NARRATIVE COMMENTS

1. Facility to provide info. on compliance: Yes ___ No X

Notes: _____

2. Follow-up visit recommended Yes ___ No X

Notes: _____

3. Financial Responsibility (FR): Yes X No ___ Expiration Date: _____

4. Inspector's Remarks: ATG Test- Tank needs to be at 50% full when testing.

Need more info on auto stick Jr. does it work with the siphon manifold? Check certification. (See attached e-mail from Mark Restaino)

Line leak- Had 12 months of visual inspections.

Func. Test- 6/9/15

5. Additional Remarks/Comments:

Operator training certification- Lori Nieson Class A/B

Had 8 months of monthly inspections of Tank sump, dispensers, and spill bucket.

Received updated CP test on 9/9/15. Passed. Good until 8/20/18

Inspector Signature

Date

Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, MN 55155-4194

UST Cathodic Protection System Evaluation
Galvanic (Sacrificial Anode) Type
Underground Storage Tanks (UST) Program

Doc Type: Compliance Certification

Instructions: Within 30 days, send completed form to Joann Henry, Minnesota Pollution Control Agency (MCPA) at the address above, fax to 651-297-2343, or e-mail joann.henry@state.mn.us.

- **All reports must be submitted regardless of results (pass, fail, or inconclusive)**
- **Incomplete, unsigned, or illegible forms will not be accepted and will be returned.**

1. UST facility MPCA Site ID #: _____

Name: Morning Star Market
Address: 104 North Main Street
City: Wahkon MN Zip code: 56386
County: Mille Lacs. Phone: _____
Contact name (if different than above): _____

2. UST owner/operator

Name: _____
Address: _____
City: _____ State: _____
Zip code: _____ Phone: _____
Contact phone: _____

3. Cathodic Protection (CP) tester information and qualifications

Tester name (print): Jim Pomrenke Company name: Bennett Petroleum Service, Inc.
Address: P.O. Box 727, 1300 29th Ave. NE City: Sauk Rapids
State: MN Zip code: 56379 Phone: 320-252-6816 E-mail: bennettpetroleumservice@cloudnet.
National Association of Corrosion Engineers (NACE) international certification #: _____
Steel Tank Institute (STI) certification #: CP 816-13

4. Reason survey was conducted (check only one)

☒ Routine - 3 years ☐ Routine - within 6 months of install ☐ 30-day re-survey after fail ☐ Re-survey within 6 months of repair/modification

Date next CP survey must be conducted by (mm/dd/yyyy): 8/20/2018 (Required within 6 months of install or repair, and every 3 years thereafter.)

5. CP tester's evaluation (check only one)

☒ **Pass** All protected structures at this facility pass the CP survey and the continuity survey indicates all protected structures are isolated. It is judged that adequate CP has been provided to the UST system (Complete sections 7 and 8).

☐ **Fail** One or more protected structures at this facility fail the CP survey, and it is judged that adequate CP has not been provided to the UST system. (Complete sections 7 and 8).

☐ **Inconclusive** The remote and the local do not both indicate the same test result on all protected structures (both pass or both fail),or the continuity survey indicates continuous or inconclusive results when compared to non-protected structures, the survey must be evaluated by a corrosion expert (Corrosion Expert to complete section 6).

CP Tester Signature: Jim Pomrenke Date CP survey performed (mm/dd/yyyy): 8/20/2015

6. Corrosion expert's evaluation (if applicable)

The attached survey must be conducted and/or evaluated by a corrosion expert when: a) conducting repairs to metallic structures which are non-factory coated with dielectric material; b) adding supplemental anodes to the tanks and/or piping without following accepted industry standards; c) the local and remote structure-to-soil potential did not result in the same outcome (both pass or both fail); d) the continuity survey indicates one or more of the protected structures are not isolated; e) when required by MPCA (Corrosion Expert to complete sections 7 and 8).

☐ **Pass** All protected structures at this facility have been judged that the adequate CP is provided to the UST system.

☐ **Fail** One or more protected structures at this facility fail the CP survey and it is judged that adequate CP has not been provided to the UST system.

Corrosion expert's name (print): _____ Phone: _____
Company name: _____
NACE Int./PE certification: _____ NACE Int./PE certification #: _____
CP Expert Signature: _____ Date (mm/dd/yyyy): _____

7. Criteria applicable to evaluation (check all that apply)

☒ **-850 On** Structure-to-soil potential more negative than -850 millivolts (mV) with the protective current applied.

☐ **-850 Off** Structure-to-soil potential more negative than -850 mV with the protective current momentarily interrupted. ("Instant Off")

☐ **100 mV** Structure tested exhibits at least 100 mV of cathodic polarization. ("Instant Off " readings minus native/depol readings)

Facility name: Morning Star Market Date of test (mm/dd/yyyy): 8/20/2015

(Note: The facility name and date of test will automatically populate from page one, if filled out electronically.)

8. Action required as a result of this evaluation (check only one)

- ☒ **None** — CP is adequate. No further action is necessary at this time. Test again by no later than (see Section 4).
- ☐ **Retest** — CP may not be adequate. Retest within 30 days to determine if passing results can be achieved. (Retests may occur only if all protected structures are isolated from non-protected structures)
- ☐ **Repair & Retest** — CP is not adequate. Repair/modification is necessary within the next 60 days, or permanently close the tank system.

9. CP system repairs and/or modification information

Date of "failing" test: _____ *(mm/dd/yyyy)* Date of repair: _____ *(mm/dd/yyyy)* Repair company: _____

Name of lead repair technician: _____ Phone # _____

Certification of repair technician (check all that apply): ☐ Steel Tank Institute ☐ NACE ☐ MPCA certified supervisor

Note: submit failing test results with this report if not already submitted.

Description of Repairs (check all that apply)

☐ 1. Supplemental anodes for a sti-P_3® tank.	*Repairs /modifications for 1 & 2 must be designed by a "corrosion expert" or installed per industry standards. Attach corrosion experts design, or documentation industry standard was followed. (Section 6 must be signed if designed by a corrosion expert.)*
☐ 2. Supplemental anodes for metallic pipe which is factory coated with dielectirc material (fusion bonded epoxy or equivilent).	
☐ 3. Supplemental anodes for a non-sti-P_3® tank. (e.g., bare steel).	*Repairs/modifications for 3 & 4 and must be designed and evaluated by a corrosion expert only. Attach a corrosion experts design. (Section 6 must be signed.)*
☐ 4. Supplimental anodes for metalic pipe which is non-factory coated with dielectirc material (e.g., galvanized, copper, bare steel, etc.).	

☐ 5. Isolation of Galvanically protected tanks/piping. (explain in "remarks/other" below).

☐ 6. Isolation of non-protected metal pipe segments (e.g., flex connectors) at STP or dispenser sumps (explain in "remarks/other" below).

Remarks/Other: _____

10. Galvanic (sacrificial anode) structure to soil potential and continuity survey

Half Cell Placement (testing) on frozen soil, concrete, asphalt, or other paving materials is not acceptable.

Structure to Soil Potentials:

- The half cell must be placed in a minimum of **three locations per tank, and three locations per piping run.** At least one of the reference cell locations must be in the soil directly over the tested structure (local); and at least one must be placed in soil approximately 25 to100 feet away from the structure (remote). The third location is at the discretion of the tester (either local or remote).
- When testing flex connectors only, **two tests points are required for each flex connector,** one local and one remote.
- Both the local and the remote voltage must meet one of the three criteria listed in section 7 in order for the structure to pass. Inconclusive must be indicated when both the local and the remote structure-to-soil potentials do not result in the same outcome (both pass or both fail).
- If the "-850 mV Off" or the "100 mV Polarization" criteria is used for galvanic systems, record structure-to-soil potential readings on the MPCA Impressed Current data sheet or similar form.

Continuity Testing: (Point-to-Point and/or Fixed Cell-Moving Ground)

- Point-to-Point: When conducting this method, the leads of the volt meter are required to contact the two structures being examined to demonstrate isolation or continuity. A half cell is not used for this test method.
- Fixed Cell-Moving Ground: When conducting this method, the half cell must be placed in the soil at a **remote** location approximately 25 to100 feet away and left undisturbed. The other lead of the meter is moved to structures being evaluated.
- To interpret continuity data for either method compare the difference in voltage of the structures evaluated and use the following guidelines: 1 mV or less = continuous, 1-10 mV= inconclusive, greater than 10 mV = isolated.
- For galvanic systems, the structure that is to be protected must be isolated from all other non-protected metallic structure in order to "pass" the continuity survey.
- If other approved continuity testing methods are used, alter this form or submit the data on a separate sheet.

Facility name: MorningStar Market Date of test (mm/dd/yyyy): 8/20/2015

(Note: The facility name and date of test will automatically populate from page one, if filled out electronically.)

Describe soil type and location(s) of remote reference cell placement(s) (e.g., Black Dirt, 30 feet NW of Tank #1 spill bucket):

Remote location #1:

Remote location #2:

Describe soil type(s) of local reference cell placements:

	Structure to soil potentials (mV)			Continuity testing (mV)			
	Half cell site map code	Half cell placement description	"ON" Voltage	Structure tested	Point-to-point voltage	Fixed cell remote voltage	Isolated/ Continuous/ Inconclusive
Structure: (Example) Tank 1	(Ex)1	Local, soil at ATG manway	-1011 mV	(Ex) ATG Conduit	475 mV		isolated
	(Ex)2	Local, Soil at STP manway	-995 mV	(Ex) STP conduit		-528 mV	isolated
	(Ex)R-1	Remote #1	-1042 mV	(Ex) Vent	421 mV		isolated
	Structure contact point(s): (Ex)Tank Bottom			(Ex) Fill Riser	375 mV	-522 mV	isolated
	Overall Structure Results (Structure to soil potentials and continuity): ☒ Pass ☐ Fail ☐ Inconclusive						
Unlead-Premium tank (compartment) Structure:	1	Unlead ATG manhole	-1000mV	ATG conduit 390mV			isolated
	2	Unlead 2 ATG manhole	-905 mV				
	3	Remote-grass area 30ft east	-905 mV				
	Structure contact point(s): tank bottom-fill						
	Overall Structure Results (Structure to soil potentials and continuity): ☒ Pass ☐ Fail ☐ Inconclusive						
Unlead 2 tank Structure:	1	Unlead ATG	-1175 mV	ATG conduit 565mV			isolated
	2	Unlead 2 ATG	-1080 mV				
	3	Remote-grass area 30ft east	-1080 mV				
	Structure contact point(s): tank bottom-fill						
	Overall Structure Results (Structure to soil potentials and continuity): ☒ Pass ☐ Fail ☐ Inconclusive						
Unlead 1-2 suction pipe Structure:	1	Unlead ATG	-1565mV	ATG conduit 955mV			isolated
	2	Unlead 2 ATG	-1470mV				
	3	Remote-grass area 30ft east	-1470mV				
	Structure contact point(s): pump 1-2						
	Overall Structure Results (Structure to soil potentials and continuity): ☒ Pass ☐ Fail ☐ Inconclusive						
Premium 1-2 suction pipe Structure:	1	Unlead ATG	-1565 mV	ATG conduit 955mV			isolated
	2	Unlead 2 ATG	-1470 mV				
	3	Remote-grass area 30ft east	-1470 mV				
	Structure contact point(s): pump 1-2						
	Overall Structure Results (Structure to soil potentials and continuity): ☒ Pass ☐ Fail ☐ Inconclusive						
Structure:							
	Structure contact point(s):						
	Overall Structure Results (Structure to soil potentials and continuity): ☐ Pass ☐ Fail ☐ Inconclusive						

Facility name: Morning Star Market

(Note: The facility name and date of test will automatically populate from page one, if filled out electronically.)

Date of test (mm/dd/yyyy): 8/20/2015

Structure to soil potentials (mV)

Continuity testing (mV)

Unlead 3-4 disp Pipe — Structure:

Half cell site map code	Half cell placement description	"ON" Voltage	Structure tested	Point-to-point voltage	Fixed cell remote voltage	Isolated/ Continuous/ Inconclusive
1	Unlead ATG	-1640mV	ATG conduit	1030mV		isolated
2	Unlead 2 ATG	-1545mV				
3	Remote - grass area 30 ft east	-1545mV				

Structure contact point(s):

Overall Structure Results (Structure to soil potentials and continuity): ☒ Pass ☐ Fail ☐ Inconclusive

Premium 3-4 dispenser Pipe — Structure:

1	Unlead ATG	-1640mV	ATG conduit	1030mV		isolated
2	Unlead 2 ATG	-1545mV				
3	Remote - grass area 30 ft east	-1545mV				

Structure contact point(s):

Overall Structure Results (Structure to soil potentials and continuity): ☒ Pass ☐ Fail ☐ Inconclusive

Unlead - Unlead 2 syphon pipe — Structure:

1	Unlead ATG	-1640mV	ATG conduit	1030mV		isolated
2	Unlead 2 ATG	-1545mV				
3	Remote - grass area 30 ft east	-1545mV				

Structure contact point(s): Unlead 2 STP manhole

Overall Structure Results (Structure to soil potentials and continuity): ☒ Pass ☐ Fail ☐ Inconclusive

Structure: ____

Structure contact point(s):

Overall Structure Results (Structure to soil potentials and continuity): ☐ Pass ☐ Fail ☐ Inconclusive

Structure: ____

Structure contact point(s):

Overall Structure Results (Structure to soil potentials and continuity): ☐ Pass ☐ Fail ☐ Inconclusive

Comments/Remarks:

If separate corrosion protection is required on flex connectors, treat each flex as if it were an individual metal pipe.

Attach additional sheets as needed.

Facility name: Morning Star Market Date of test (mm/dd/yyyy): 8/20/2015

(Note: The facility name and date of test will automatically populate from page one, if filled out electronically.)

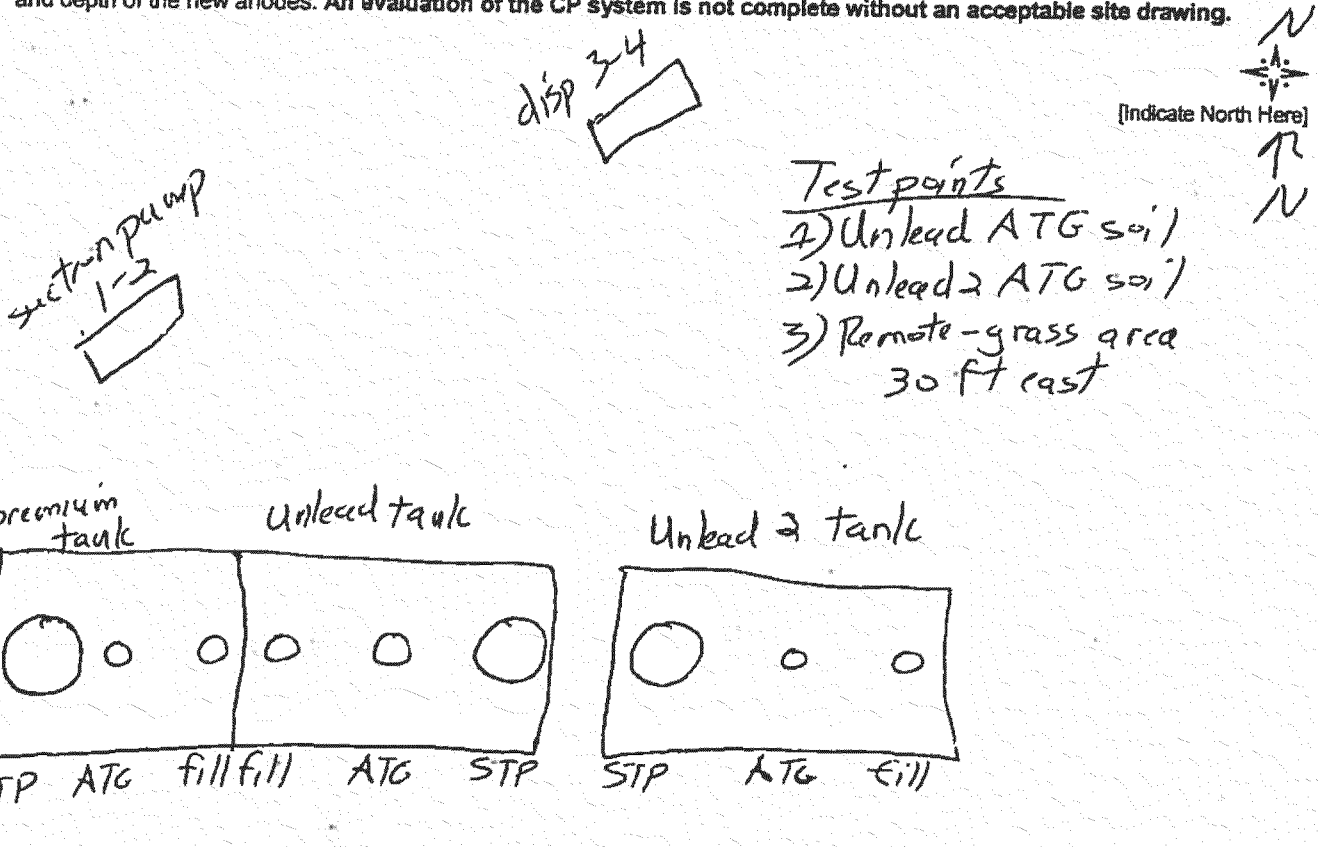
11. Description of UST system

Tank/ Pipe #	Product	Capacity (Gallons)	Tank type[1]	Piping type[2]	Metal Segments at Tank sump[3]	Metal Segments at Dispenser[3]
1	Unlead/Premium	6000/4000	ST-P3 SW	steel/anodes		
2	Unlead2	4000	ST-P3 SW	steel/anodes		
3	suction unl 1-2		coated	steel/anodes	2) syphon pipe unl unlead 2 tank	
4	suction prem 1-2		coated	steel/anodes	coated steel with anodes	
5	STP unl 3-4		coated	steel/anodes		
6	STP prem 3-4		coated	steel/anodes		
Ex:	Premium	10,000	SW sti-P3®,	DW Fiberglass	CP w/ anodes	In Containment

1. Indicate if tank is Double Wall (DW) or Single Wall (SW). Also indicated type (e.g., steel, fiberglass, sti-P3®, composite etc.). Also indicate if tank is compartmental if applicable
2. Indicate if piping is Double Wall (DW) or Single Wall (SW). Also indicate type (e.g., coated steel, fiberglass, galvanized, flex, etc.).
3. Indicate how metal segments such as flex connectors or metal pipe segments are protected from corrosion (e.g., isolated, booted, bonded, CP w/anodes, in containment, etc.)

12. UST facility site drawing

Attach detailed drawing or use the space provided to draw a sketch of the UST and CP systems. At a minimum you should indicate the following: All tanks, piping and dispensers; Location of anodes if known; All buildings and streets; Location of CP test stations; Each reference cell placement (local and remote) must be indicated by a code (e.g., 1,2, T-1,) corresponding with the appropriate test in Section 10 of this form. If supplemental anodes are added to the tank system, indicate number, size, location and depth of the new anodes. **An evaluation of the CP system is not complete without an acceptable site drawing.**



Ryan Rupp

From: Restaino, Mark <restaino.mark@epa.gov>
Sent: Wednesday, September 09, 2015 11:16 AM
To: Rich Mycue
Cc: Andy Boyd; Ryan Rupp
Subject: RE: Morning Star Market
Attachments: AutoStik 3rd Party Certs..pdf

Rich,

Thanks for the information. From the information you provided it appears that the two unleaded tanks are manifolded. During the recent cathodic protection test the contractor indicated that the siphon bar was tested.

The next item that we need to follow-up on is the Automatic Tank Gauge (ATG). Attached is a copy of the 3rd party evaluations for the AutoStik ATGs which can be found on the National Work Group on Leak Detection Evaluations' website (http://www.nwglde.org/). The 3rd party evaluation is what we require to ensure that the ATG can meet the leak detection requirements. There were 5 different evaluations done for the AutoStick ATGs, based on the types of probes and programs available. The information available on the website indicates that only one type of AutoStick was evaluated on manifolded tank. This applies only to AutoStik II and AutoStik Jr., with SCALD 2.0, sold on or after March 1, 2004. From the information I saw the AutoStick at Morning Star Market does not use SCALD. In order to meet the federal leak detection requirements using the AutoStick at the Morning Star Market the siphon must be broken first. I do not believe this is being done.

From what I can tell current ATG does not meet the leak detection requirements for the unleaded system. There may be more information available, which I am not aware. If that is the case I would be glad to review it. Otherwise, the ATG should be updated, if it can be, or replaced.

If there are any questions please let me know.

MARK RESTAINO
Underground Storage Tanks Section
Land and Chemicals Division
U.S. EPA Region 5
77 W. Jackson Blvd. (LR-8J)
Chicago, IL 60604
Phone: (312) 886-0394
Fax: (312) 582-5872

From: Rich Mycue [mailto:rmycue@dmoilmn.com]
Sent: Friday, September 04, 2015 10:54 AM
To: Restaino, Mark
Subject: Morning Star Market

Mark;

Attached is the test results for Morning Star Market ;

The tanks and lines including the syphon pipe between the tanks; also the ATG is set to test the tanks at 51 % ; I believe that is what we needed to cover;

Anything else please call me ?

I wasn't able send this email to either Andy or Ryan their address kept getting kicked back;

Thank You

Rich Mycue

D&M Oil Co.- Eggens Direct Service;
P.O. Box 115
Milaca , Mn. 56353

Office: 877-983-3761
Direct: 320-983-2057
Fax: 320-983-3083
Cell: 612-390-6592
Email: rmycue@dmoilmn.com

From: DM Oil Scanner [mailto:eggensscan@dmoilmn.com]
Sent: Friday, September 04, 2015 5:31 AM
To: Rich Mycue
Subject:

Issue Date: April 6, 2010

Franklin Fueling Systems
(originally evaluated under EBW, Inc.)

AutoStik
(Magnetostrictive Probe)

AUTOMATIC TANK GAUGING METHOD

As of April 1, 2009, Franklin Fueling systems no longer manufactures this method.

Certification	Leak rate of 0.2 gph with PD = 99.96% and PFA = 0.44%. Leak rate of 0.1 gph with PD = 95.34% and PFA = 4.66%.
Leak Threshold	0.1 gph for leak rate of 0.2 gph. 0.05 gph for leak rate of 0.1 gph. A tank system should not be declared tight if the test result indicates a loss or gain that equals or exceeds this threshold.
Applicability	Gasoline, diesel, aviation fuel, fuel oil #4.
Tank Capacity	Maximum of 15,000 gallons. Tank must be between 50 and 95% full.
Waiting Time	Minimum of 2 hours between delivery and testing for leak of 0.2 gph. Minimum of 8 hours between delivery and testing for leak of 0.1 gph. Minimum of 2 hours between dispensing and testing for leak of 0.2 gph. Minimum of 8 hours between dispensing and testing for leak of 0.1 gph. There must be no delivery during waiting time for leak of 0.2 gph. There must be no dispensing or delivery during waiting time for leak of 0.1 gph.
Test Period	Minimum of 4 hours. Test data are acquired and recorded by system's computer. Leak rate is calculated from average of subsets of all data collected. There must be no dispensing or delivery during test.
Temperature	Average for product is determined by a single thermistor RTD.
Water Sensor	Must be used to detect water ingress. Minimum detectable water level in the tank is 0.91 inch. Minimum detectable water level change is 0.025 inch.
Calibration	Thermistors and probe must be checked and, if necessary, calibrated in accordance with manufacturer's instructions.
Comments	Not evaluated using manifolded tank systems. Therefore, this certification is only applicable when there is a probe used in each tank and the siphon is broken during testing. Tests only portion of tank containing product. As product level is lowered, leak rate in a leaking tank decreases (due to lower head pressure). Consistent testing at low levels could allow a leak to remain undetected. EPA leak detection regulations require testing of the portion of the tank system which routinely contains product.

Franklin Fueling systems
3760 Marsh Road
Madison, WI 53718
Tel: (800) 225-9787
E-mail: info@franklinfueling.com
URL: www.franklinfueling.com

Evaluator: Ken Wilcox Associates
Tel: (816) 443-2494
Date of Evaluation: 02/07/1991

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Issue Date: November 22, 1995
Revision Date: April 6, 2010

Franklin Fueling Systems
(originally listed as EBW, Inc.)

AutoStik II, AutoStik Jr.
(Magnetostrictive Probe)

AUTOMATIC TANK GAUGING METHOD

As of April 1, 2009, Franklin Fueling systems no longer manufactures this method.

Certification	*Applies only to AutoStik II and AutoStik Jr. models sold before March 1, 2004.* Leak rate of 0.2 gph with PD = 99.9% and PFA = 0.1%. Leak rate of 0.1 gph with PD = 98.3% and PFA = 1.7%.
Leak Threshold	0.1 gph for leak rate of 0.2 gph. 0.05 gph for leak rate of 0.1 gph. A tank system should not be declared tight if the test result indicates a loss or gain that equals or exceeds this threshold.
Applicability	Gasoline, diesel, aviation fuel, fuel oil #4.
Tank Capacity	Maximum of 15,000 gallons. Tank must be between 50 and 95% full.
Waiting Time	Minimum of 6 hours between delivery and testing. Minimum of 6 hours between dispensing and testing for leak of 0.2 gph. Minimum of 2 hours between dispensing and testing for leak of 0.1 gph. There must be no delivery during waiting time for leak of 0.2 gph. There must be no dispensing or delivery during waiting time for leak of 0.1 gph.
Test Period	Minimum of 4 hours. Test data are acquired and recorded by system's computer. Leak rate is calculated from average of subsets of all data collected. There must be no dispensing or delivery during test.
Temperature	Average for product is determined by a minimum of 5 thermistors.
Water Sensor	Must be used to detect water ingress. Minimum detectable water level in the tank is 0.49 inch. Minimum detectable water level change is 0.0052 inch.
Calibration	Thermistors and probe must be checked and, if necessary, calibrated in accordance with manufacturer's instructions.
Comments	Not evaluated using manifolded tank systems. Therefore, this certification is only applicable when there is a probe used in each tank and the siphon is broken during testing. Tests only portion of tank containing product. As product level is lowered, leak rate in a leaking tank decreases (due to lower head pressure). Consistent testing at low levels could allow a leak to remain undetected. EPA leak detection regulations require testing of the portion of the tank system which routinely contains product. AutoStik Jr. is used with up to 4 magnetostrictive probes and can handle up to 8 input sensors. AutoStik II is used with up to 16 magnetostrictive probes and can handle up to 64 input sensors.

Franklin Fueling systems
3760 Marsh Road
Madison, WI 53718
Tel: (800) 225-9787
E-mail: info@franklinfueling.com
URL: www.franklinfueling.com

Evaluator: Ken Wilcox Associates
Tel: (816) 443-2494
Date of Evaluation: 08/20/93

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Issue Date: July 27, 2004
Revision Date: April 6, 2010

Franklin Fueling Systems
(originally listed as EBW, Inc.)

AutoStik II, AutoStik Jr.
(Magnetostrictive Probe)

AUTOMATIC TANK GAUGING METHOD

As of April 1, 2009, Franklin Fueling systems no longer manufactures this method.

Certification	*Applies only to AutoStik II and AutoStik Jr. models sold March 1, 2004 to April 1, 2009.* Leak rate of 0.2 gph with PD = 99.9% and PFA = 0.1%. Leak rate of 0.1 gph with PD = 99.9% and PFA = 0.1%.
Leak Threshold	0.1 gph for leak rate of 0.2 gph. 0.05 gph for leak rate of 0.1 gph. A tank system should not be declared tight if the test result indicates a loss or gain that equals or exceeds this threshold.
Applicability	Gasoline, diesel, aviation fuel, fuel oil #4.
Tank Capacity	Maximum of 15,000 gallons. Tanks less than 95% full may be tested. Minimum product level required based on tank diameter is as follows: 48" dia/min 12"; 64" dia/min 14"; 72"dia/min 15"; 96" dia/min 17.5"; 126"dia/min 21.5". For other tank diameters, see evaluation report.
Waiting Time	Minimum of 6 hours 1 minute between delivery and testing for leak rate of 0.2 gph. Minimum of 5 hours 18 minutes between delivery and testing for leak rate of 0.1 gph. None between dispensing and testing. There must be no delivery during waiting time
Test Period	Length of the test is determined automatically based on quality of test data. Average data collection time during evaluation was 5 hours 10 minutes for leak rate of 0.2 gph. Average data collection time during evaluation was 5 hours 44 minutes for leak rate of 0.1 gph. Test data are acquired and recorded by a microprocessor. Leak rate is calculated from data determined to be valid by statistical analysis. There must be no dispensing or delivery during the test.
Temperature	Probe contains 5 thermistors to monitor product temperature. At least one thermistor must be submerged in product during testing.
Water Sensor	Must be used to detect water ingress. Minimum detectable water level in the tank is 0.208 inch. Minimum detectable water level change is 0.011 inch.
Calibration	Thermistors and probe must be checked and, if necessary, calibrated in accordance with manufacturer's instructions.
Comments	Not evaluated using manifolded tank systems. Therefore, this certification is only applicable when there is a probe used in each tank and the siphon is broken during testing. Tests only portion of tank containing product. As product level is lowered, leak rate in a leaking tank decreases (due to lower head pressure). Consistent testing at low levels could allow a leak to remain undetected. EPA leak detection regulations require testing of the portion of the tank system which routinely contains product. AutoStik Jr. can support up to 4 tanks. AutoStik II can support up to 8 tanks.

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Evaluator: Ken Wilcox Associates
Tel: (816) 443-2494
Dates of Evaluation: 08/05/92, 09/05/97, 08/21/02

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Issue Date: July 27, 2004
Revision Date: April 6, 2010

Franklin Fueling Systems
(originally listed as EBW, Inc.)

AutoStik II, AutoStik Jr.
(INCON, EBW LL2 Magnetostrictive Probe)

AUTOMATIC TANK GAUGING METHOD

As of April 1, 2009, Franklin Fueling systems no longer manufactures this method.

Certification	*Applies only to AutoStik II and AutoStik Jr. models sold March 1, 2004 to April 1, 2009.* Leak rate of 0.2 gph with PD = 95.7% and PFA = 4.3%.
Leak Threshold	0.1 gph. A tank system should not be declared tight if the test result indicates a loss or gain that equals or exceeds this threshold.
Applicability	Gasoline, diesel, aviation fuel, fuel oil #4.
Tank Capacity	Maximum of 30,000 gallons. Tanks less than 95% full may be tested. Minimum product level required based on tank diameter as follows: 48" dia/min 12"; 64" dia/min 14"; 72"dia/min 15"; 96" dia/min 17.5"; 126"dia/min 21.5". For other diameters, see evaluation report.
Waiting Time	Minimum of 4 hours 9 minute between delivery and testing. Minimum of 2 hours between dispensing and testing. There must be no delivery during waiting time.
Test Period	The length of the test is determined automatically based on quality of test data. Average data collection time during the evaluation was 6 hours, 51 minutes. Test data is acquired and recorded by system's computer. Leak rate is calculated from data determined to be valid by statistical analysis. There must be no dispensing or delivery during the test.
Temperature	Probe contains 5 thermistors to monitor product temperature. At least one thermistor must be submerged in product during testing.
Water Sensor	Must be used to detect water ingress. Minimum detectable water level in the tank is 0.208 inches. Minimum detectable water level change is 0.011 inch.
Calibration	Thermistors and probe must be checked and, if necessary, calibrated in accordance with manufacturer's instructions.
Comments	Not evaluated using manifolded tank systems. Therefore, this certification is only applicable when there is a probe used in each tank and the siphon is broken during testing. This equipment was not evaluated using manifolded tanks. Tests only the portion of the tank containing product. As product level is lowered, the leak rate in a leaking tank decreases (due to lower head pressure). Consistent testing at low levels could allow a leak to remain undetected. EPA leak detection regulations require testing of the portion of the tank system which routinely contains product. AutoStik Jr. can support up to 4 tanks. AutoStik II can support up to 8 tanks.

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Issue Date: July 27, 2004
Revision Date: June 8, 2005

EBW, Inc.

AutoStik II, AutoStik Jr., with SCALD 2.0
(INCON TSP-LL2 Magnetostrictive Probe)

CONTINUOUS IN-TANK LEAK DETECTION METHOD
(Continuous Automatic Tank Gauging)

Certification	*Applies only to EBW, Inc. AutoStik II and AutoStik Jr., with SCALD 2.0 models sold on or after March 1, 2004.* Leak rate of 0.2 gph with PD > 99% and PFA < 1%.
Leak Threshold	0.10 gph for single and manifolded tank systems. A tank system should not be declared tight and a message printed for the operator, if the test results indicate a loss or gain that exceeds this threshold.
Applicability	Gasoline, diesel, aviation fuel, fuel oil #4.
Tank Capacity	Maximum of 49,336 gallons for single tanks and for all tanks manifolded together. Tank must be between 14 and 93.5% full. Contact manufacturer for tank system applications if total tank capacity exceeds 30,000 gallons.
Throughput	Monthly maximum of 257,818 gallons.
Waiting Time	None between delivery and data collection when difference between product in tank and product delivered is 6.0 degrees F or less.
Test Period	Data collection time ranges from 5 to 28 days. Data sampling frequency is > 1 per second. System collects data at naturally occurring product levels without interfering with normal tank operation, and discards data from unstable periods when system performs test.
Temperature	Average for product is determined by a minimum of 5 thermistors.
Water Sensor	Must be used to detect water ingress. Minimum detectable water level in the tank is 0.208 inch. Minimum detectable change in water level is 0.011 inch.
Calibration	Thermistors and probe must be checked and, if necessary, calibrated in accordance with manufacturer's instructions.
Comments	System reports a result of "pass" or "fail". Evaluated using both single and manifolded tank systems with probes in each tank. Tests only the portion of the tank containing product. As product level is lowered, the leak rate in a leaking tank decreases (due to lower head pressure). Consistent testing at low levels could allow a leak to remain undetected. EPA leak detection regulations require testing of the portion of the tank system which routinely contains product. AutoStik Jr. can support up to 4 tanks. AutoStik II can support up to 8 tanks. The database for evaluation of the system includes sites with vapor recovery and blending dispensers.

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Date of Evaluation: 07/11/2003

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